



CHARTER of the  
HIGH CONFIDENCE SOFTWARE AND SYSTEMS  
INTERAGENCY WORKING GROUP

SUBCOMMITTEE ON NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND  
DEVELOPMENT  
COMMITTEE ON TECHNOLOGY  
NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

**A. Official Designation**

The High Confidence Software and Systems (HCSS) Interagency Working Group (IWG) is hereby established by action of the Subcommittee on Networking and Information Technology Research and Development (NITRD) of the National Science and Technology Council (NSTC) Committee on Technology (CoT)<sup>1</sup>.

**B. Purpose**

The purpose of the HCSS IWG is to focus on high confidence in system and software engineering and on specific R&D challenges to foster a new multidisciplinary research agenda that will enable the United States to lead in the development of next-generation engineered systems that depend on ubiquitous cyber control and require very high levels of system assurance.

**C. Objectives**

The shared vision of the HCSS IWG is the development of a sound, theoretical, and technological basis for assured construction of safe and secure complex cyber-physical systems that people can depend upon. It also envisions hardware, software, and system engineering tools that incorporate ubiquitous, application-based, domain-based, and risk-based assurance.

- Facilitate coordination of specific research that supports this vision and that is undertaken by one agency that may be of value to other agencies. Program and portfolio reviews, agency presentations on developing programs, and agenda-building workshops will be instrumental in effecting this coordination.
- Identify R&D issues and activities towards the design and deployment of toolsets that substantially reduce the effort, time, and cost of assurance and quality certification processes. Such tools would provide a technology base of public domain, advanced-

---

<sup>1</sup> The NSTC/CoT/NITRD was originally chartered on December 10, 1991. The most recent charter was signed July 10, 2013.

prototype implementations of high confidence software and systems technologies that will enable rapid adoption.

#### **D. Functions**

The HCSS IWG shall perform the following functions:

- Across-agency coordination:
  - Coordinate and collaborate across Federal agencies, other NITRD bodies, and other NSTC committees as appropriate on issues of mutual interest.
  - Develop and maintain strong and forward-looking agendas that represent the current and future evolution of Information Technology Research and Development.
  - Identify interagency and cross-cut opportunities for collaboration, coordination, and leveraging among agencies in specific areas in IT R&D.
  - Provide a forum for agencies to exchange program-level information about agency activities (Annual Planning Meeting or Data Call).
  - Select and maintain collegial leadership and dynamic membership.
- Work with NITRD:
  - Develop, maintain, and periodically update interagency short-, mid-, and/or long-range strategic plans and priorities.
  - Participate and support NITRD Outreach (workshops, conferences, and other meetings) to support the Interagency Working Group's agenda.
  - Prepare and maintain an active charter with a specific purpose and objectives.
  - Provide inputs to NITRD's annual Supplement to the President's Budget<sup>2</sup>.
  - Provide inputs to the NITRD's Annual Activities Report summarizing the Interagency Working Group activities.
  - Schedule and participate in regularly scheduled and ad hoc meetings, and maintain documentation of the meeting discussions.
- Work with other stakeholders:
  - Assist and support the NITRD Subcommittee in responding to the recommendations of the President's Council of Advisors on Science and Technology (PCAST), and responding to inquiries from NSTC, Office of Science and Technology Policy (OSTP), Office of Management and Budget (OMB), and Congress.
  - Provide inputs to NSTC strategic and Federal Plans when requested.

---

<sup>2</sup> The IWG's activities will be reported to the appropriate Program Component Areas (s) (PCAs).

## **E. Membership**

The following NITRD Member agencies are represented on the HCSS IWG<sup>3</sup>:

- Department of Commerce;
- Department of Defense;
- Department of Energy;
- Department of Homeland Security;
- Department of Health and Human Services;
- Environmental Protection Agency;
- National Aeronautics and Space Administration; and
- National Science Foundation.

The following components of the Executive Office of the President may also be represented on the HCSS IWG:

- Office of Management and Budget; and
- Office of Science and Technology Policy.

Federal departments, agencies, and councils that participate in the HCSS IWG's activities include:

- Department of Agriculture;
- Department of Transportation;
- Nuclear Regulatory Commission; and

such other Executive organizations, departments, and agencies as the NITRD Subcommittee or IWG Co-chairs may designate as appropriate.

## **F. Leadership**

The Co-chairs of the HCSS IWG shall be named and approved by the NITRD Subcommittee Co-chairs.

## **G. Private-Sector Interface**

The HCSS IWG may work with appropriate private-sector<sup>4</sup> entities, including the President's Council of Advisors on Science and Technology (PCAST), and will recommend to the Subcommittee on Networking and Information Technology R&D the nature of any additional private-sector advice needed to accomplish its mission. The HCSS IWG may interact with and receive *ad hoc* advice from various private-sector groups, consistent with the Federal Advisory Committee Act.

---

<sup>3</sup> Changes to membership may occur without requiring a charter amendment. After charter ratification, membership and changes to membership may be tracked in a separate document.

<sup>4</sup> The Federal Advisory Committee Act, 5 U.S.C. App., as amended, does not explicitly define "private sector", but the phrase is generally understood to include individuals or entities outside the Federal government such as, but not limited to, the following: non-Federal sources, academia, State, local or tribal governments, individual citizens, the public, non-governmental organizations, industry associations, and international bodies.

## **H. Resources**

The NITRD NCO shall provide project management, technical, information technology/networking, and administrative support services to the HCSS IWG as part of its responsibilities to the NITRD Subcommittee.

## **I. Termination**

Unless renewed by the Co-chairs of the NITRD Subcommittee prior to its expiration, the HCSS IWG shall terminate no later than December 30, 2017.

## **J. Determination**

I hereby determine that the establishment of the High Confidence Software and Systems Interagency Working Group is in the public interest in connection with the performance of duties imposed by the Executive Branch by law, and that such duties can be performed through the advice and counsel of such a group.

Approved:

Keith A. Marzullo, Ph.D.     3/1/16  
Co-chair  
Subcommittee, Networking and Information  
Technology R&D

James Kurose, Ph.D.     3/2/16  
Co-chair  
Subcommittee, Networking and Information  
Technology R&D